Flooding may threaten residential drinking water wells. Wells may become contaminated with bacteria, viruses or parasites from floodwaters. The presence of these organisms in drinking water may indicate contamination from various sources which include human and animal wastes.

Drinking Water Contaminants

The most common illnesses due to drinking contaminated water are gastrointestinal disorders. Typical symptoms include cramps and diarrhea that may be mild to very severe. Young children, elderly persons and persons with deficient immune systems are likely to have more serious health effects. This includes people with HIV/AIDS and people on immunosuppressive therapy (i.e. cancer treatments, transplant recipients, etc.).

Bacteria

Wells that may have been affected by floodwaters should be tested for bacterial contamination prior to consumption. Bacterial contamination of a well is identified by testing for *coliform* bacteria. Coliforms are a group of bacteria that are used as indicators of drinking water quality because they are found in the digestive tract of humans and other warm-blooded animals. Coliforms in water may be an indication of contamination by disease-causing organisms.

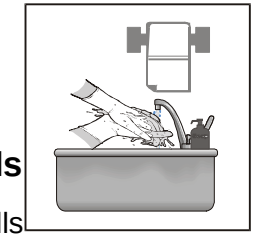
Cryptosporidium and Giardia

Cryptosporidium and Giardia are similar organisms generally found in the same environment that can cause serious diarrheal illness. Both are small parasites found in the feces of infected humans or animals and are commonly found in rivers and streams, especially during flood events. Wells affected by floodwater may become contaminated with these organisms. Normally, Cryptosporidium and Giardia are not found in groundwater because of natural soil filtration.

When ingested, these organisms may cause diarrhea, stomach cramps, vomiting, fever, gas and weight loss. Stools are frequently watery and foul smelling. However, some people who are infected may exhibit no symptoms. After a person becomes infected with Cryptosporidium, it usually takes 5 to 14 days for symptoms to develop. With a Giardia infection, symptoms usually develop within 7 to 25 days. Symptoms may last from a few days to several months.

If you have any of the symptoms noted above, especially diarrhea or stomach cramps which last for several days, you should see your physician. If you do have one of these illnesses, you may spread it to others. Person-to-person transmission by the fecal-oral route is common. Handwashing is the best preventive measure to keep from spreading these illnesses. ***Always wash your hands:***

- After using the bathroom,
- Before eating,
- After changing diapers,
- After handling pets, and
- Before preparing food.



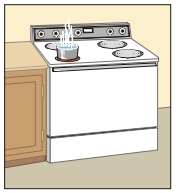
Flooding and Drinking Water Wells

Drinking water from wells should not be used if:

- The well or the immediate area around the well has been exposed to accumulations of flood/surface water.
- It is a shallow well that has not had direct contact with flood/surface water, but is in the vicinity of accumulations of flood/surface waters.

Use a safe supply of water instead, such as commercially bottled water. If a safe supply of water is not available, well water must be boiled before it can be used for drinking, cooking, or brushing of teeth.

Water from wells affected by floodwaters should be boiled for 3 to 5 minutes prior to being used for human consumption. This includes water for brushing of teeth and rinsing of produce. If well water is cloudy, bottled water may be the only solution.



Continue to use a safe water supply or boil the water until a satisfactory bacterial analysis has been obtained and all water lines have been properly disinfected. Water sampling containers can be obtained at any Benton-Franklin Health District office. If a satisfactory bacterial sample cannot be obtained, chlorination of the well will be necessary. For chlorination/disinfection instructions, contact the Benton-Franklin Health District or a well drilling company.

If you suspect that water is contaminated with chemicals, oils, poisonous substances, sewage, etc., do not use the water.

Emergency Preparedness

The recommended amount of water to store is 1 gallon per person per day. This is the average amount a person uses for drinking, cooking and brushing of teeth. Keep at least a three day supply of water on hand per person. Water in tightly sealed containers may be stored for up to six months. Use or dispose of the stored water and replace with a fresh supply every six months.

Purchase commercially bottled water or fill containers with water from a safe water supply for emergency storage. If water is obtained from a residential well, be sure the well is tested for bacteria on an annual basis.

To fill water containers, follow these steps:

- Use containers that are made for water storage. Other usable containers include clean glass and plastic jugs previously used for juice, pop, or bottled water (plastic food and milk containers are not recommended). Containers must have tight fitting lids. Food grade plastic containers may also be purchased. Never use a container that has held chemicals or other toxic substances.
- Prepare containers by either washing in the dishwasher or by hand in warm, soapy water. Then sanitize containers with a mild bleach solution (1 teaspoon of bleach per 3 gallons of water). Allow the containers to air dry.
- Fill containers with water. Add bleach in order to keep water safe for drinking. For a one gallon container of water, add 1/8 teaspoon of bleach. For a five gallon container, add ½ teaspoon of bleach. Use household bleach which contains 5.25% sodium hypochlorite. Avoid using bleach with added scents or cleaners.

- Seal containers tightly, label with date, and store in a cool, safe place.

You may also need to boil water during an emergency. To do this you will need equipment to heat water. Keep in mind that your usual source of energy may not be available during an emergency.

For additional assistance:

Benton-Franklin Health District
Environmental Health Division
800 W. Canal Drive
Kennewick, WA 99336
(509) 582-7761 Ext. 246

BFHD-E-0065 (Rev 5/99)

The Single Family Well

Flooding

PUBLIC HEALTH
Prevent • Promote • Protect
BENTON-FRANKLIN HEALTH DISTRICT